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Docket No.: A-3878

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MAIL STOP: APPEAL BRIEF-PATENTS

April 21, 2006

Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Before the Board of Patent Appeals and Interferences

Applic. No. : 10/766,593 Confirmation No.:
Inventor : Berthold Berens, et al.
Filed : January 28, 2004
Title : Punching and Scoring Backing Plate, Method
for Producing the Backing Plate, Machine
Equipped with the Backing Plate and Method
for Punching and Scoring with the Backing
Plate
TC/A.U. : 3724
Examiner : Phong H. Nguyen
Customer No. : 24131

Hon. Commissioner for Patents
Alexandria, VA 22313-1450

BRIEF ON APPEAL

Sir:

This is an appeal from the final rejection in the Office action dated November 4, 2005, finally rejecting claims 1, 3 and 4. Payment in the amount of \$500.00 to cover the fee for filing the Brief on Appeal is included.

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Real Party in Interest:

This application is assigned to Heidelberger Druckmaschinen AG of Heidelberg, Germany. The assignment will be submitted for recordation upon the termination of this appeal.

Related Appeals and Interferences:

No related appeals or interference proceedings are currently pending which would directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

Status of Claims:

Claims 1, 3 and 4 are rejected and are under appeal. Claims 2 and 6 were cancelled in an Amendment filed on August 30, 2005.

Status of Amendments:

No claims were amended after the final Office action. An amendment under 37 CFR § 1.116 was filed on January 31, 2006. The Primary Examiner stated in an Advisory Action dated February 16, 2006 that the request for reconsideration had been considered but did no place the application in condition for allowance.

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Summary of the Claimed Subject Matter:

As stated in the first paragraph on page 1 of the specification of the instant application, the invention relates to a punching and scoring backing plate which is produced from a metal sheet. The invention furthermore relates to a method for producing a punching and scoring backing plate from a metal sheet. Additionally, the invention relates to a printing material-processing machine having a punching and scoring backing plate, and the invention also relates to a method for punching and scoring a printing material.

Appellants explained on page 14 of the specification, line 19, that, Fig. 2 is a fragmentary view of Fig. 1 in which it is more readily apparent how the printing material 8 rests on the punching and scoring backing plate 4 and is punched and scored in one and the same operation by the punching and scoring tool plate 5 rolling thereon. The punching and scoring tool plate 5, which is at least partly formed of a material that is magnetically attractable, for example steel, has at least one punching line 6 and at least one scoring line 7 as tool lines. The punching and scoring backing plate 4 is formed with a surface 27 into which at least one scoring groove 9 is

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introduced. During the punching and scoring of the printing material 8, the punching line 6, after it has cut through the printing material 8, is seated on the surface 27, and the scoring line 7 presses the printing material 8 simultaneously into the scoring groove 9.

Appellants further stated on page 15 of the specification, line 9, that, in the sectional view of Fig. 3, the punching and scoring backing plate 4 is shown as being double layered and having a comparatively hard top layer 10 provided with the surface 27. The top layer 10 is produced on a carrier layer 20 by hard anodizing and is formed of aluminum oxide. The top layer 10 has a hardness which is at least 350 HV 0.05 (Vickers Hardness) and preferably lies in a hardness range from 500 to 800 HV 0.05. The top layer 10 has a top layer thickness d which is at least 10 microns and preferably lies in a thickness range from 20 to 50 microns. The carrier layer 20 is comparatively soft and has a hardness lying in the hardness range from 50 to 80 HB (Brinell Hardness). The carrier layer 20 and the top layer 10 taken together have a plate thickness f which, in dimensional terms, lies in a range extending from 0.5 millimeter to 0.7 millimeter. The scoring line 7 has a scoring line height b which can be slightly higher than a punching line height a of the punching line 6. The scoring line 7 has a scoring line width h which is considerably less

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than a scoring groove width g of the scoring groove 9. The groove depth of the scoring groove 9 is less than the plate thickness f, so that the scoring groove 9 has a groove base with a base thickness c which is at least 0.1 millimeter. A printing material thickness e of the printing material 8 is greater than 0.3 millimeter. In this regard, it is noted that the printing material 8 is a very thick board or pasteboard sheet. The punching and scoring backing plate 4 has been fabricated from an aluminum sheet which is first hard anodized for the purpose of producing the top layer 10 formed of aluminum oxide, and then provided with the scoring groove 9 and further such scoring grooves by a metal-removing machining process, preferably milling. Since only a very limited portion is illustrated in Fig. 3, it is not possible to see that the two plates 4 and 5 are lying on the circumferential surfaces of the two cylinders 1 and 2 and are curved so as to fit snugly against these circumferential surfaces.

Grounds of Rejection to be Reviewed on Appeal

1. Whether or not claims 1, 3, and 4 are obvious over Sinn et al. (U.S. Patent No. 6,106,453) (hereinafter "Sinn") in view of Schulz et al. (U.S. Patent Publication No. 2003/0045412 A1) (hereinafter "Schulz") under 35 U.S.C. §103.

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Argument:

Whether claims 1, 3, and 4 are obvious over Sinn in view of Schultz.

Claims 1, 3, and 4 are not obvious over Sinn in view of Schultz:

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claim 1 calls for, *inter alia*:

an aluminum plate having a thickness, a hard-anodized top layer, and a scoring groove formed therein, the scoring groove having a residual thickness of at least 0.1 mm.

In the last paragraph on page 2 of the final Office action the Examiner stated that "it is to be noted that providing a groove having a thickness of 0.1 mm ... is routine skill in the art". Appellants disagree with the Examiner.

The Sinn reference discloses a steel punching/scoring plate (7) that is disposed on a flat counter-pressure plate (4). The steel punching/scoring plate (7) has score grooves (8a,

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8b). Sinn is silent as the residual thickness of the score grooves (8a, 8b).

It is disclosed on page 9 line 6 to page 10, line 6 of the specification of the instant application, that the residual thickness of the score groove is at least 0.1 millimeter. It is disclosed that the base is advantageous with regard to a use of the punching and scoring backing plate as a cylinder cover. It is disclosed that the punching and scoring backing plate has to be clamped onto an impression cylinder for the purpose of rotational punching and scoring. When the punching and scoring backing plate is clamped on the cylinder, it is subjected to bending and clamping forces which entail the risk that the punching and scoring backing plate will curve or curl up in the vicinity of scoring grooves that extend axially parallel with the impression cylinder if these scoring grooves were to be produced as through-holes. The instant application discloses that since these scoring grooves are instead manufactured as blind holes according to the development or mode described herein, assurance is offered that the punching and scoring backing plate will not warp when it is clamped on. The Sinn reference discloses a flat, steel scoring plate that is clamped onto a flat backing plate. Sinn does not disclose an aluminum plate that is clamped onto an impression cylinder. Sinn does not disclose the residual thickness of the scoring

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groove to be at least 0.1 mm. Therefore, the Examiner's comments that providing a groove having a thickness of 0.1 mm is routine skill in the art, is not accurate at all.

Furthermore, in item 2 of the final Office action the Examiner alleges that Sinn does not disclose the material of the punching/scoring plate. This is not correct. The Sinn

reference explicitly discloses that the punching/scoring plate is made of steel. Sinn explicitly discloses in column 3, lines 58-59, "a steel punching/scoring plate 7." In the background of the invention, Sinn discloses strip steel punching and scoring tools. Accordingly, not only is Sinn not silent about the material of the punching/scoring plate (7), he explicitly discloses that it is made of steel. Therefore, the Examiner's allegations that Sinn is silent with respect to the material of the scoring plate are incorrect.

In the last paragraph of the Advisory action the Examiner acknowledges that Sinn discloses a steel backing plate. Accordingly, in the Advisory action, the Examiner simply changes his position and alleges that "although Sinn teaches a steel backing plate, replacing the steel material with the aluminum alloy to increase the backing plate wear resistance is routine skill in the art". The Examiner offers absolutely no support for his allegation. Accordingly, the allegation by

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the Examiner is completely unsupported and unfounded. More specifically, a person of ordinary skill in the art of scoring tools (that person being a person such as undersigned, who has worked in the design and manufacture of punching and scoring tools for at least 7 years) knows that punching tools as disclosed by Sinn are produced from tool steel or possibly carbide. Tool steel punches are generally heat-treated and may also be coated with a titanium nitride coating to increase wear of the tool. Furthermore, a person of ordinary skill in the art of scoring tools knows that wear resistance is reduced by using aluminum instead of steel, wear resistance is not improved by producing tools out of aluminum instead of steel. This is why the Sinn reference explicitly discloses "a steel punching/scoring plate 7". Therefore, the Examiner's allegation that "replacing the steel material with the aluminum alloy to increase the backing plate wear resistance is routine skill in the art", is completely unsupported and unfounded. The honorable Board is therefore requested to disregard the Examiner's allegations pertaining to the use of an aluminum alloy.

The Schulz reference discloses a laser engraved embossing roll with wear resistant coatings and method of making them. Schulz discloses the embossing roll of a hard elastomer

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material that can be engraved and subsequently plated to form a protective wear-resistant surface.

It is a requirement for a *prima facie* case of obviousness, that the prior art references must teach or suggest all the claim limitations.

The references do not show or suggest an aluminum plate having a thickness, a hard-anodized top layer, and a scoring groove formed therein, the scoring groove having a residual thickness of at least 0.1 mm, as recited in claim 1 of the instant application.

As seen from the above given remarks, Sinn is silent as to the score residual thickness, while he does explicitly disclose that the scoring plate be made of steel. Sinn does not disclose an aluminum scoring plate that the scoring groove has a residual thickness of at least 0.1 mm.

Because Sinn explicitly discloses a steel scoring plate, the Schultz reference does not make up for the deficiencies of Sinn.

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The references applied by the Examiner do not teach or suggest all the claim limitations. Therefore, it is believed that the Examiner has not produced a *prima facie* case of obviousness.

Furthermore, as seen from the above given remarks, changing the material of the punching/scoring plate (7) of Sinn from steel to aluminum would destroy the function or wear

resistance of Sinn. More specifically, a person of ordinary skill in the art of scoring tools knows that scoring tools need to be wear resistant in order to have a long tool life. It is exactly for this reason that Sinn explicitly discloses that the punching/scoring plate (7) is made of steel.

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Therefore, a person of ordinary skill in the art of scoring tools would not modify the steel punching/scoring plate of Sinn to be made of aluminum, as suggested by the Examiner. This is because modifying the steel punching/scoring plate to be made of aluminum would reduce the tooling life of the punching/scoring plate, thereby destroying the intended function of wear resistance of the scoring plate. Since the modification of the steel punching/scoring plate of Sinn as suggested by the Examiner would destroy the intended function of wear resistance of the steel punching/scoring plate, there is no motivation to combine Sinn and Schulz.

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Finally, the Examiner stated in the Advisory action that "applicant argues that Sinn's backing plate and applicant's backing plate are different in shape" and that "the difference is not presented in the claim language; therefore, Sinn reads on the claimed invention." Appellants do not use the argument of a difference in shape as a limitation that is patentable. Instead, as seen above, appellants merely argued that due to the difference in the shapes of Sinn's plate and the plate of the instant application the residual thickness of the scoring groove being greater than at least 0.1 mm, is not routine skill in the art. Therefore, the honorable board is respectfully requested to disregard the Examiner's allegation pertaining the shapes of the plates and applicants arguments.

Since claim 1 is believed to be allowable, dependent claims 3 and 4 are believed to be allowable as well.

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Based on the above given remarks, the honorable Board is therefore respectfully urged to reverse the final rejection of the Primary Examiner.

Respectfully submitted,


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Claims Appendix:

1. A punching and scoring backing plate, comprising:

an aluminum plate having a thickness, a hard-anodized top layer, and a scoring groove formed therein, said scoring groove having a residual thickness of at least 0.1 mm.

3. The punching and scoring backing plate according to claim 1, wherein said top layer has a hardness of at least 350 HV 0.05.

4. The punching and scoring backing plate according to claim 1, wherein said top layer has a thickness of at least 10 μm .

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Evidence Appendix:

No evidence pursuant to & 1.130, 1.131, or 1.132 or any other evidence has been entered by the Examiner and relied upon by appellant in the appeal.

(if a 1.131 ore 32 Declaration was filed in this application, it must be appended to the Brief on Appeal).

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Evidence Appendix: Page 1 of 1

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Related Proceedings Appendix:

Since there are no prior or pending appeals, interferences or judicial proceedings which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal, no copies of decision rendered by a court or the Board are available.

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Related Proceedings Appendix: Page 1 of 1